## How To Order

**Instrument Side**
2 = 1/4" FNPT
5 = 1/2" FNPT
2B = 1/4" BSPT

**Diaphragm Material**
T = Modified PTFE
V = Viton
E = EPDM

**Body Material**
PVC = Polyvinyl Chloride
CPV = Chlorinated Polyvinyl Chloride (CPVC)
PPR = Natural Polypropylene, homopolymer glass and mineral reinforced No Pigment
PVD = High Purity Virgin PVDF

**TG —**

**Model Number**
TUFF GUARD Gauge Isolator

**Inlet Side**
2 = 1/4" FNPT
5 = 1/2" FNPT
2S = 1/4" Socket
5S = 1/2" Socket

**Gauge Range**
XXX = None
000 = 0-30" HG
015 = 0-15 psi
030 = 0-30 psi
060 = 0-60 psi
100 = 0-100 psi
160 = 0-160 psi
200 = 0-200 psi
300 = 0-300 psi

**Gauge Style**
S = Standard Black Painted Steel Case
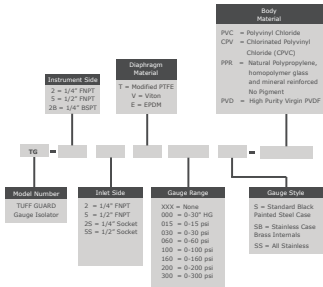SB = Stainless Case Brass Internals
SS = All Stainless

**Example Part Number:**
**TG-2ST060S-PVC**

Tuff Guard Gauge Isolator with 1/4" Female NPT Outlet, 1/2" Female NPT Inlet, Convoluted Modified PTFE Diaphragm, w/ 2.5" Diameter 0-60 PSI Standard Black Painted Steel Case

**Notes:**
- Dual Scale & Compound Dials Available
- Gauge Specifications Available
- Pressure Switch & Transducer Assemblies Available
- Process Gauge Assembly Available

Please call Factory for further Ordering Info.
Toll Free: (866) 452-2349

## Pressure/Temperature Range

| Material | 10°C 50°F | 20°C 68°F | 30°C 86°F | 40°C 104°F | 50°C 122°F | 60°C 140°F | 70°C 158°F | 80°C 176°F | 90°C 194°F | 100°C 212°F | 120°C 248°F | Net Weight Pounds* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PVC | 200 | 250 | 250 | 220 | 140 | 135 |  |  |  |  |  | 0.33 |
| CPVC | 230 | 250 | 250 | 230 | 200 | 200 | 150 | 120 | 60 |  |  | 0.36 |
| PP | 200 | 240 | 240 | 210 | 145 | 125 | 75 | 60 |  |  |  | 0.31 |
| PVDF | 240 | 250 | 250 | 250 | 250 | 230 | 220 | 200 | 160 | 140 | 80 | 0.39 |

WORKING PRESSURES PSI — WEIGHTS

**Temperature Ranges:** PVC: 14 to 140°F (10 to 60°C), CPVC: 50 to 194°F (10 to 90°C), PP: 46 to 176°F (8 to 80°C), PVDF: -22 to 248°F (-30 to 120°C). * Weights are for unfilled 1/4" x 1/2" without gauges.

**MARQUEST** SCIENTIFIC
Fluid Handling Products



# TUFF GUARD™
# GAUGE ISOLATORS

**ATTENTION:**

*UPPER CHAMBER FILLING REQUIRED*
**If unit has been purchased w/out an instrument**

**Installation procedure and parts list**

# Please... read these instructions...

**The Diaphragm**

Your Marquest Gauge Isolator is supplied with a modified PTFE, Viton©, or EPDM Diaphragm.

The diaphragm provides the isolation of the process media from the pressure sensing instruments. Should it become necessary to replace the diaphragm, the following procedure should be used as depicted by the diaphragm material. When using Viton© or EPDM diaphragms, simply unscrew the chambers from each other. The dipahragm may then be removed and its replacement set into position. Screw the two chambers together so that the diaphragm seals in the sealing grooves provided by the two chambers. It may be necessary to wrench tighten a quarter turn after firmly tightening by hand. When replacing a modified PTFE diaphragm, wrenches are required as additional torque is necessary to unseal and reseal the diaphragm. Please contact factory for further instruction.

**Chemical Resistance Data**

Chemical resistance data is not provided by Marquest Scientific due to the complex potential of combinations, concentrations, temperature and degree of safety factors required.

A specific inquiry to Marquest providing complete service data and service requirements will provide you with an opinion as to suitability.

Marquest cannot gaurantee suitability for any service.

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The Marquest Gauge Isolator is designed to isolate and protect pressure sensing instruments from process media. This is accomplished by the impermeable diaphragm. The instrument side of the gauge isolator is filled with a compatible liquid that will transmit the pressure of the processing system to the instrument. The inherent volumetric and sensing area design features allow an accurate transmittal of pressure.

**INSTALLATION**

Installation of the Marquest Gauge Isolator, when purchased with a gauge, is performed by simply connecting it to the processing system with a 1/4" or 1/2" NPT plastic nipple. PTFE tape is recommended as a thread sealant. Pipe dope, not specifically recommended for plastic pipe by the manufacturer, should not be used. A firm hand tight torque is normally sufficient for small plastic pipe threads; over-tightening may deform threads and could cause leaking.

Installation of the Marquest Gauge Isolator, when purchased without a gauge is accomplished in the following manner:
**1.** Fill the upper chamber of the Gauge Isolator with a compatible liquid by pouring the fill liquid through the instrument outlet orifice. The spherical design of the chamber will allow the air to evacuate the chamber, providing the orifice is not bridged by the fill liquid.

The chamber shall be considered full when the liquid level reaches the mid-point of the thread.
**2.** The gauge or instrument may be filled in the same manner, although a small probing device may be necessary to evacuate the trapped air. For certain applications where a high degree of accuracy is imperative, the instrument should be filled on a vacuum manifold device.
**3.** The standard orifices on most gauge are such that the fill liquid will be retained when the orifice is faced down and in poistion to thread into the Gauge Isolator. PTFE tape is recommended as the thread sealant. Hand tighten instrument to Gauge Isolator.
**NOTE: Air left in the chamber or instrument may cause some loss in accuracy of the instrument reading. However, the internal design features of the Gauge Isolator will tolerate some void of fill liquid.**
**Proper filling becomes more critical when greater displace-ment volume instruments or systems are to be isolated. Improper filling can cause damage or distortion to the diaphragm causing potential leakage. Consulting the factory on proper filling of these greater displacement applications is recommended.**
**4.** Connect to the processing system using a 1/4" or 1/2" NPT plastic nipple using PTFE tape as the recommended thread sealant.
The standard gauge (S) furnished with the Gauge Isolator, when ordered as such , is 2.5" diameter, lower mount. The case and ring are drawn steel, black corrosion resistant painted. Windows are flat glass. Dial is steel; white background with black markings. Movement is brass. Bourdon tube is phosphor bronze except in vacuum and 15 psi type where beryllium copper is used as the tube material.

**Dimensions**



Pressure Gauge

1/4" NPT

5.9"

2.5"

TG-22, 1/4" NPT
TG-25, 1/2" NPT

2.9" Dia.